

REMARKS

The Office Action of March 26, 2008 has been reviewed and the Examiner's comments carefully considered. Claims 1, 3, 5, 7-10, 12 and 14 have been amended and claims 6, 13 and 15-18 have been canceled by way of this Amendment. Accordingly, claims 1-5, 7-12 and 14 are currently pending, and claim 1 is in independent form. Support for the amendments can be found on pages 6-15 of the Specification. Applicants respectfully submit that no new matter has been added by way of this Amendment.

Rejections Under 35 U.S.C. §112, second paragraph:

Claims 2, 3, 5-10, 12-15 and 17 stand rejected under 35 U.S.C. §112, second paragraph for various informalities. Reconsideration and withdrawal of these rejections in view of the foregoing amendments and following remarks are respectfully requested.

With regard to claim 2, claim 1 has been amended to incorporate a limitation as to an "activator". As such, the term now has proper antecedent basis as used in claim 2.

With regard to claim 3, the phrase "a cyclic tertiary amine oxide, preferably" has been deleted from the claim. As such, claim 3 clearly relies upon the limitation as to the amine oxide being NMMO.

With regard to claim 5, the claim has been amended to include water as a solvent component. Furthermore, claim 5 has been amended to recite NMMO such that an antecedent basis for the limitation is not required.

With regard to claim 6, the claim has been canceled.

With regard to claims 7-9, the narrow limitations following the broad limitations have been deleted from each of these claims.

With regard to claim 10, a specific reason for rejecting this claim is not set forth in the Office Action. Claim 10 has been amended to correct certain grammatical errors.

With regard to claim 12, the claim has been amended to state that activator is present in an amount of 0.1% to about 3.0%. As such, claim 12 requires at least some amount of activator to be present.

With regard to claim 13, the claim has been canceled.

With regard to claim 14, the claim has been amended to delete the term "obtained" and to clarify that the cellulose solution is the same cellulose solution recited in claim 1. Furthermore, claim 14 has been amended to set forth that the calculated percentages

are based upon weight and to recite NMMO such that an antecedent basis for the limitation is not required.

With regard to claims 15 and 17, these claims have been canceled.

Applicants respectfully request that the rejections of claims 2, 3, 5-10, 12-15 and 17 be withdrawn.

Prior art Rejections:

Claims 1-6, 8-15 and 17 stand rejected under 35 U.S.C. §102(b) as being anticipated by International Application Publication No. WO 01/64775 to Kosan et al., also published as U.S. Patent No. 6,676,739 (hereinafter "Kosan"). Claim 7 stands rejected under 35 U.S.C. §103(a) as being obvious over Kosan. Reconsideration and withdrawal of these rejections are respectfully requested.

The present invention, as defined by independent claim 1, as amended, is directed to an improved process for the preparation of a cellulose solution for spinning fibres, filaments or films therefrom. The process includes the steps of: i) activating cellulose in a mixture containing the cellulose, tertiary amine oxide solvent, activator and water for a period sufficient to allow a swelling of the cellulose by introduction therein of water present in the mixtures, to obtain activated cellulose, the temperature of the activation step and concentration of solvent being such that the solvent is not converted into its monohydrate state during the step of activation; and ii) the activated cellulose being subjected to the steps of dissolution of cellulose in the solvent by heating under reduced pressure for removal of water so as to convert the solvent into at least its monohydrate form so as to cause a dissolution.

Kosan discloses a method for producing a cellulose solution in an aqueous amine oxide. Generally, Kosan discloses a method for producing a cellulose solution in an aqueous amine oxide, preferably NMMO. The cellulose is suspended in the aqueous amine oxide and the suspension is converted into the cellulose solution. Particularly, an alkali, such as NaOH, is added to increase the thermal stability of the cellulose in the aqueous amine oxide solution. The amount of alkaline is determined based upon a calculation of the internal alkaline consumption of the cellulose and other additives. The quantity of alkaline to be added to the cellulose solution is pre-dissolved and added to the aqueous amine oxide before, during or after the placing of the pulp and the additives in the aqueous amine solution. Please

note the Abstract and column 3, line 38 to column 4, line 59 of Kosan. Please also note column 4, line 65 to column 6, line 44 of Kosan for specific preparation examples.

Applicants respectfully submit that a claim is anticipated under §102 only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference (MPEP §2131). Applicants respectfully submit that the disclosure in Kosan is not sufficient to anticipate independent claim 1, as amended, under §102.

Independent claim 1, as amended, recites, *inter alia*, specific claim language as to “activating cellulose solution in a mixture containing said cellulose, tertiary amine oxide solvent, activator and water for a period sufficient to allow a swelling of the cellulose by introduction therein of water present in said mixtures, to obtain activated cellulose, . . . the activated cellulose being subjected to the steps of dissolution of cellulose in the solvent by heating under reduced pressure for removal of water so as to convert the solvent into at least its monohydrate form so as to cause a dissolution.” Applicants respectfully submit that Kosan fails to teach or suggest the above-mentioned claimed subject matter.

The present invention uses a suitable activator, such as glycols and glymes, and impregnation of the cellulose in aqueous amine oxide for sufficient time, preferably 20-60 minutes, so as to allow penetration of water and therefore amine oxide into the cellulose matrix. Proper penetration of amine oxide in cellulose is necessary before the cellulose begins to dissolve so as to allow for ease of dissolution and to obtain a homogeneous solution.

As is shown in Tables 1 and 2 on pages 7-8 of the Specification, water and amine oxide do not penetrate into the cellulose matrix properly if the pulp is simply retained in the aqueous amine oxide for a period of time, which results in lower absorption of the amine oxide and higher melt viscosity of the solution. As is demonstrated by the results summarized in Tables 1 and 2, addition of an activator increases the absorption of the amine oxide under identical conditions. This is due to the activator facilitating the penetration of water/amine oxide by its surface active (i.e., wetting) properties at the non-solvent stage and as dispersing agent at the solution stage.

Kosan teaches the preparation of cellulose solution in aqueous amine solution, particularly NMMO. However, at no point does Kosan teach or suggest the step of activating the cellulose in a mixture containing the cellulose, tertiary amine oxide solvent, activator and water for a period of time sufficient to allow a swelling of the cellulose by introduction

therein of water present in the mixture, to obtain activated cellulose prior to dissolution of the cellulose in the solvent. Rather, Kosan only teaches creating a dispersion of pulp, NMMO, water and an alkaline prior to dissolution, which, as demonstrated above, is not equivalent to activating the cellulose, as is claimed. Moreover, as Kosan fails to teach or suggest activating the cellulose in the mixture as claimed, one of ordinary skill in the art could not simply optimize the period of time required for activation based solely on the teachings of Kosan. Further rejection on these grounds would therefore be improper.

For the foregoing reasons, Applicants submit that independent claim 1, as well as claims 2-5, 7-12 and 14 depending therefrom, are allowable, as the prior art of record, including Kosan, fails to teach or suggest the claimed subject matter. Applicants respectfully request that the rejections of these claims be withdrawn.

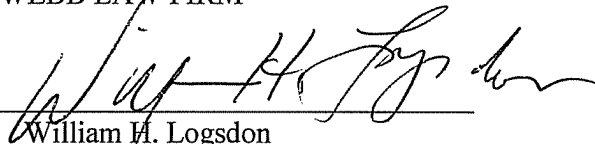
CONCLUSION

In view of the above amendments and remarks, reconsideration of the rejections and allowance of claims 1-5, 7-12 and 14 are respectfully requested.

Respectfully submitted,

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